

Questioned Documents Unit (QDU)

Procedures for Processing Evidence Using Amido Black (Fisher 98)

Section 1

1 Scope

This document applies to examiners and analysts in the QDU for the enhancement of patterned impressions in blood.

2 Equipment/Materials/Reagents

- Balance
- Weighing pans
- Spatulas
- Beakers (10 ml - 2000 ml)
- Graduated cylinders (10 ml - 100 ml)
- Magnetic stirrer
- Magnetic stirring bars
- Dipping trays (appropriate size for item being processed)
- Squirt bottles or spray bottles
- Fume hood (optional)
- Disposable gloves
- Lab coat
- Protective eyewear
- Paper towels
- 5-Sulfosalicylic acid
- Acetic acid
- Formic acid (concentrated)
- Naphthol blue black
- Kodak Photo Flo 600 Solution
- Sodium carbonate
- Distilled water
- Tap water

3 Standards and Controls

3.1 Amido Black Solution

Prepared in a 2 liter beaker on a magnetic stirring device by combining the ingredients in the order that they are listed below:

- 500 mL Distilled water
- 20 grams 5-Sulfosalicylic acid
- 3 grams Naphthol blue black
- 3 grams Sodium carbonate
- 50 mL Formic acid
- 50 mL Acetic acid
- 12.5 mL Kodak Photo Flo 600 Solution

3.2 Dilute the mixture to 1 liter using distilled water. Stir until the Amido Black is dissolved. While this mixture can be used immediately, the best results will be obtained if it is allowed to stand for several days prior to use. The solution will be tested on a positive control blood stain prior to use.

A positive reaction will produce a blue black color. A small area of the background of the object or surface being enhanced will be stained with the solution prior to application. If the background develops a significant color, the Amido Black solution may not be appropriate for enhancement of this item.

Record the results of the control test in the *Chemical Enhancement and Control Logbook* located in the Shoeprint room.

The Amido Black solution can be stored in dark bottles indefinitely.

4 Sampling

Not Applicable.

5 Procedure

5.1 The Amido Black solution may be applied by dipping the specimen(s) to be enhanced in a tray filled with the solution or by covering the stained area with a paper towel(s) and using a squirt bottle filled with the solution to saturate the stained area. Completely cover the target area and allow to develop for a minimum of thirty (30) seconds. Three (3) to five (5) minutes are preferred for maximum enhancement. The specimen(s) should be rinsed with tap water and allowed to air dry.

5.2 At the completion of chemical enhancement, refer to the *QDU Procedures for Conducting Footwear and Tire Tread Examinations*.

6 Calculations

Not Applicable.

7 Measurement Uncertainty

Not Applicable.

8 Limitations

The color and porosity of the background substrate must be tested prior to use of this solution. Amido Black will react with the protein present in blood to produce a blue black color. If the background substrate is similar in color to blue black or if the background substrate stains a blue black color, then it will obscure the chemically enhanced impression.

9 Safety

9.1 Adhere to the safety practices outlined in the *FBI Laboratory Safety Manual*.

9.2 Handle any specimens containing known or possible biohazards in accordance with FBI Laboratory health and safety practices.

9.3 Dispose of all chemicals according to the *Chemical Disposal Guidelines* on file in the Shoeprint examination room.

9.4 Safety information concerning each of the chemicals used in these procedures are available from the *Material Safety Data Sheets (MSDS)* on file in the Shoeprint examination room.

10 References

FBI - Chemical Formulas and Processing Guide for Developing Latent Prints, Revised 2000

FBI Laboratory Safety Manual

QDU Quality Assurance Manual

QDU Standard Operating Procedures Manual

Rev. #	Issue Date	History
0	07/03/06	Rev. for ASCLD/LAB-International (ISO 17025).
1	03/01/18	1 Scope, added, "This document applies to examiners and analysts in the QDU" Deleted "4 Calibration Refer to the <i>QD Quality Assurance Manual, Maintenance, Calibration, and Performance for Equipment Verification</i> and re-numbered appropriately.

Approval

Redacted - Signatures on File

Questioned Documents
Unit Chief

Date: 02/28/2018

Footwear/Tire Tread
Technical Leader

Date: 02/28/2018

QA Approval

Quality Manager

Date: 02/28/2018